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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/043,532	01/11/2002	Matthew P.J. Baker	GB 010022	6232

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EXAMINER

DEAN, RAYMOND S

ART UNIT PAPER NUMBER

2684

DATE MAILED: 09/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/043,532	Applicant(s) BAKER ET AL.	
	Examiner Raymond S. Dean	Art Unit 2684	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see amendment filed July 14, 2005 with respect to the rejection(s) of claim(s) 1 – 3, 6, 10 and 20 under 35 U.S.C. 102(e) and claims 4 – 5, 7, and 11 – 19 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of newly found prior art Willenegger (US 2002/0009061) and Dabak (US 6,862,275).

Willenegger teaches a radio communication system having physical control channels arranged for the bi-directional transmission of sets of control information between a secondary station and a plurality of primary stations (Sections 0037, 0049 lines 1 – 6, CDMA systems have forward and reverse DPCHs thus there will be bi-directional transmissions of sets of control information), wherein respective closed-loop power control means are provided for individually adjusting the power of some or all physical control channels, or parts thereof, to which a set of control information is mapped (Sections 0040 – 0041 and 0055 – 0056).

Willenegger does not teach said closed-loop power control means being utilized to select a subset of primary stations, selected from the plurality of primary stations, for the transmission of data over at least one channel between the selected subset of primary stations and the secondary station.

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Dabak teaches a closed-loop power control means being utilized to select a subset of primary stations, selected from the plurality of primary stations, for the transmission of data over at least one channel between the selected subset of primary stations and the secondary station (Column 5 lines 32 – 49, lines 63 – 65, Column 6 lines 2 – 11, the mobile selects the primary base station based on the SIR, the measurement of said SIR is a closed power control means).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Willenegger with the site selection method of Dabak for the purpose of reducing interference at the mobile station during soft handoff as taught by Dabak.

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 1 – 7 and 10 – 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Willenegger (US 2002/0009061) in view of Dabak (US 6,862,275).

Regarding Claim 1, Willenegger teaches a radio communication system having physical control channels arranged for the bi-directional transmission of sets of control information between a secondary station and a plurality of primary stations (Sections 0037, 0049 lines 1 – 6, CDMA systems have forward and reverse DPCHs thus there will be bi-directional transmissions of sets of control information), wherein respective closed-loop power control means are provided for individually adjusting the power of some or all physical control channels, or parts thereof, to which a set of control information is mapped (Sections 0040 – 0041 and 0055 – 0056, since there are parallel power control loops and soft handoff is conducted there is an inherent capability to control the power of a plurality of physical control channels between a plurality of base stations and the mobile station).

Willenegger does not teach said closed-loop power control means being utilized to select a subset of primary stations, selected from the plurality of primary stations, for the transmission of data over at least one channel between the selected subset of primary stations and the secondary station.

Dabak teaches a closed-loop power control means being utilized to select a subset of primary stations, selected from the plurality of primary stations, for the transmission of data over at least one channel between the selected subset of primary stations and the secondary station (Column 5 lines 32 – 49, lines 63 – 65, Column 6 lines 2 – 11, the mobile selects the primary base station based on the SIR, the

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measurement of said SIR is a part of closed loop power control thus said measurement of the SIR is a closed loop power control means).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Willenegger with the site selection method of Dabak for the purpose of reducing interference at the mobile station during soft handoff as taught by Dabak.

Regarding Claim 2, Willenegger in view of Dabak teaches all of the claimed limitations recited in Claim 1. Willenegger further teaches means provided for encoding each downlink physical control channel, or part thereof, to which a set of control information is mapped with a respective scrambling code to enable the associated primary station to be identified (Section 0034 lines 1 – 3, since this is a CDMA system there are inherent scrambling or PN codes that distinguish the base stations).

Regarding Claim 3, Willenegger in view of Dabak teaches all of the claimed limitations recited in Claim 1. Willenegger further teaches means provided for transmitting power control commands relating to each downlink physical control channel, or part thereof, to which a set of control information is mapped via a single time-multiplexed uplink physical channel (Section 0056).

Regarding Claim 4, Willenegger in view of Dabak teaches all of the claimed limitations recited in Claim 1. Dabak further teaches means responsive to requests from the secondary station are provided for selecting the primary station connected to the or each data channel (Column 6 lines 2 – 11).

Regarding Claim 5, Willenegger in view of Dabak teaches all of the claimed limitations recited in Claim 1. Dabak further teaches means provided for establishing a plurality of communication links between a primary station and the secondary station (Column 6 lines 2 – 11), for determining which of the primary stations comprise selected primary stations, and for determining which of the communication links are selected (Column 6 lines 2 – 11).

Regarding Claim 6, Willenegger teaches a primary station for use in a radio communication system having physical control channels arranged for the bi-directional transmission of sets of control information between a secondary station and a plurality of primary stations (Sections 0037, 0049 lines 1 – 6, CDMA systems have forward and reverse DPCCHs thus there will be bi-directional transmissions of sets of control information), wherein closed-loop power control means are provided for adjusting the power of some or all physical control channels between the plurality of primary stations and the secondary station, or parts thereof, to which a set of control information is mapped (Sections 0040 – 0041 and 0055 – 0056, since there are parallel power control loops and soft handoff is conducted there is an inherent capability to control the power of a plurality of physical control channels between a plurality of base stations and the mobile station).

Willenegger does not teach at least one data channel between a selected subset of primary stations, selected from the plurality of primary stations, and the secondary station for the transmission of data over the at least one data channel.

Dabak teaches at least one data channel between a selected subset of primary stations, selected from the plurality of primary stations, and the secondary station for the transmission of data over the at least one data channel (Column 5 lines 32 – 49, lines 63 – 65, Column 6 lines 2 – 11).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Willenegger with the site selection method of Dabak for the purpose of reducing interference at the mobile station during soft handoff as taught by Dabak.

Regarding Claim 7, Willenegger in view of Dabak teaches all of the claimed limitations recited in Claim 6. Dabak further teaches means provided for acquiring or releasing a data channel in response to changing radio link conditions, thereby becoming or ceasing to be a selected primary station (Column 6 lines 2 – 11).

Regarding Claim 10, Willenegger teaches a secondary station for use in a radio communication system having physical control channels arranged for the bi-directional transmission of sets of control information between the secondary station and a plurality of primary stations (Sections 0037, 0049 lines 1 – 6, CDMA systems have forward and reverse DPCHs thus there will be bi-directional transmissions of sets of control information), wherein closed-loop power control means are provided for adjusting individually the power of some or all physical control channels between the plurality of primary stations and the secondary station, or parts thereof, to which a set of control information is mapped (Sections 0040 – 0041 and 0055 – 0056, since there are parallel power control loops and soft handoff is conducted there is an inherent capability to

control the power of a plurality of physical control channels between a plurality of base stations and the mobile station).

Willenegger does not teach at least one data channel between a selected subset of primary stations, selected from the plurality of primary stations, and the secondary station for the transmission of data over the at least one data channel and said closed-loop power control means being utilized to select the subset of primary stations.

Dabak teaches at least one data channel between a selected subset of primary stations, selected from the plurality of primary stations, and the secondary station for the transmission of data over the at least one data channel (Column 5 lines 32 – 49, lines 63 – 65, Column 6 lines 2 – 11) and said closed-loop power control means being utilized to select the subset of primary stations (Column 5 lines 32 – 49, lines 63 – 65, Column 6 lines 2 – 11, the mobile selects the primary base station based on the SIR, the measurement of said SIR is a part of closed loop power control thus said measurement of the SIR is a closed loop power control means)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Willenegger with the site selection method of Dabak for the purpose of reducing interference at the mobile station during soft handoff as taught by Dabak.

Regarding Claim 11, Willenegger in view of Dabak teaches all of the claimed limitations recited in Claim 10. Dabak further teaches means provided for determining which of the primary stations comprise the selected primary station or stations in response to changing radio link conditions (Column 6 lines 2 – 11).

Regarding Claim 12, Willenegger in view of Dabak teaches all of the claimed limitations recited in Claim 10. Willenegger further teaches means provided for transmitting each set of uplink control information over a separate physical channel (Section 0055).

Regarding Claim 13, Willenegger in view of Dabak teaches all of the claimed limitations recited in Claim 12. Willenegger further teaches means provided for distinguishing the physical channels by use of different channelization codes (Section 0034 lines 1 – 3, since this is a CDMA system there are spreading codes for distinguishing the channels).

Regarding Claim 14, Willenegger in view of Dabak teaches all of the claimed limitations recited in Claim 12. Willenegger further teaches means provided for distinguishing two of the physical channels by transmitting a first physical channel, which uses the in-phase component of the carrier, and a second physical channel, which uses the quadrature-phase component of the carrier (Section 0034 lines 1 – 3, typical CDMA systems use QPSK modulation, which comprises in-phase and quadrature components).

Regarding Claim 15, Willenegger in view of Dabak teaches all of the claimed limitations recited in Claim 14. Willenegger further teaches means provided for interrupting an uplink physical control channel when uplink data transmission is required (Section 0034 lines 1 – 3, a typical CDMA system comprises control channels and data channels, transmission of data occurs a plurality of different times in CDMA systems

thus there will be interruption of the uplink physical control channels when uplink data transmission is required).

Regarding Claim 16, Willenegger in view of Dabak teaches all of the claimed limitations recited in Claim 10. Willenegger further teaches means provided for transmitting each set of uplink control information in a time-multiplexed manner over a single physical channel (Section 0056).

Regarding Claim 17, Willenegger in view of Dabak teaches all of the claimed limitations recited in Claim 16. Willenegger further teaches means provided for achieving the time multiplexing by reducing the rate of transmission of power control commands (Section 0056).

Regarding Claim 18, Willenegger in view of Dabak teaches all of the claimed limitations recited in Claim 17. Willenegger further teaches the reduction of rate is in proportion to a number greater than or equal to the number of primary stations with which sets of control information are exchanged (Section 0056, the greater the number of base stations the greater the number of power control bits and the smaller the number of base stations the smaller the number of power control bits the rate will therefore vary in proportion to the number of power control bits).

Regarding Claim 19, Willenegger in view of Dabak teaches all of the claimed limitations recited in Claim 16. Willenegger further teaches means provided for achieving the time multiplexing by including separate power control relating to each primary station with which sets of control information are exchanged in a single physical control channel (Section 0056).

Regarding Claim 20, Willenegger teaches a method of operating a radio communication system having physical control channels arranged for the bi-directional transmission of sets of control information between a secondary station and a plurality of primary stations (Sections 0037, 0049 lines 1 – 6, CDMA systems have forward and reverse DPCHs thus there will be bi-directional transmissions of sets of control information), the method comprising operating respective closed-loop power control means for individually adjusting the power of some or all physical control channels, or parts thereof, to which a set of control information is mapped (Sections 0040 – 0041 and 0055 – 0056, since there are parallel power control loops and soft handoff is conducted there is an inherent capability to control the power of a plurality of physical control channels between a plurality of base stations and the mobile station).

Willenegger does not teach at least one data channel between a selected subset of primary stations, selected from the plurality of primary stations, and the secondary station for the transmission of data over the at least one data channel and control information mapped to select the subset of primary stations.

Dabak teaches at least one data channel between a selected subset of primary stations, selected from the plurality of primary stations, and the secondary station for the transmission of data over the at least one data channel (Column 5 lines 32 – 49, lines 63 – 65, Column 6 lines 2 – 11) and information to select the subset of primary stations (Column 5 lines 32 – 49, lines 63 – 65, Column 6 lines 2 – 11).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Willenegger with the site selection method

of Dabak for the purpose of reducing interference at the mobile station during soft handoff as taught by Dabak.

5. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Willenegger (US 2002/0009061) in view of Dabak (US 6,862,275) as applied to Claim 6 above, and further in view of Baum et al. (US 6,385,462)

Regarding Claim 8, Willenegger in view of Dabak teaches all of the claimed limitations recited in Claim 6. Willenegger in view of Dabak does not teach means provided for determining operational parameters of the data channel depending on the power level of a physical control channel, or part thereof, to which a set of control information is mapped.

Baum teaches means provided for determining operational parameters of the data channel depending on the power level of a physical control channel, or part thereof, to which a set of control information is mapped (Column 4 lines 22 – 28, the MCR is an operational parameter).

It would have been obvious to one ordinary skill in the art at the time the invention was made to use the MCR taught above in Baum in the CDMA system of Lundby for the purpose of implementing an adaptive power allocation, which can achieve high system capacity, and system coverage as taught by Baum.

Regarding Claim 9, Willenegger in view of Dabak teaches all of the claimed limitations recited in Claim 8. Baum further teaches modulation and/or coding schemes (Column 4 lines 22 – 28).

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond S. Dean whose telephone number is 571-272-7877. The examiner can normally be reached on 6:00-2:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay A. Maung can be reached on 571-272-7882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Raymond S. Dean
September 14, 2005

EDAN ORGAD
PATENT EXAMINER/TELECOMM.

Ed. 9/16/05